

WHAT IS CLAIMED IS:

1. A detection apparatus comprising:

a detector; and

a portable computer communicatively connected to the detector,

5 wherein the detector transmits a signal to the portable computer when a detection is made by the detector, and the portable computer produces an alarm in response to the signal.

2. The detection apparatus of Claim 1 wherein the signal is a detection

signal, and the detector comprises (a) a detector element that outputs an unprocessed signal, and

10 (b) a digital signal processing device that converts the unprocessed signal from the detector element into a processed signal, wherein the processed signal is transmitted to the portable computer.

3. The detection apparatus of Claim 2,

15 wherein the digital signal processing device outputs the detection signal if the processed signal is above a threshold level, and

wherein the detector produces its own alarm if the processed signal is above the threshold level.

20 4. The detection apparatus of Claim 3 wherein the threshold level is

adjustable.

5. The detection apparatus of Claim 1 wherein the detector is selected from the group consisting of a radiation detector, a biometric sensor, a radio frequency sensor, a chemical detector, and a biological detector.

5 6. The detection apparatus of Claim 1 wherein the detector is selected from the group consisting of a scintillator with photodiode detector, a photodiode detector, a memory-cell based radiation detector, a residual gas analyzer ("RGA"), a chemical tape sensor, an infrared ("IR") spectral absorption instrument, and a solid state chemical sensor.

10 7. The detection apparatus of Claim 6 wherein the memory-cell based radiation detector is an SRAM radiation detector.

8. The detection apparatus of Claim 6 further comprising a second detector communicatively connected to the portable computer.

15 9. The detection apparatus of Claim 1 wherein the portable computer is a personal digital assistant ("PDA").

10. The detection apparatus of Claim 1 wherein the portable computer is a  
20 laptop computer.

11. The detection apparatus of Claim 1 wherein the portable computer is a microprocessor.

12. The detection apparatus of Claim 1 further comprising:  
a location device communicatively connected to the portable computer.

5 13. The detection apparatus of Claim 12 wherein the location device is a  
Global Positioning System (“GPS”) device.

14. The detection apparatus of Claim 1 further comprising:  
a communication device communicatively connected to the portable computer.

10 15. The detection apparatus of Claim 14 wherein the portable computer  
transmits first information via the communication device.

16. The method of Claim 15 wherein the portable computer receives second  
15 information via the communication device.

17. The method of Claim 16 wherein the first information includes the signal  
and the second information includes a command.

20 18. The detection apparatus of Claim 14 wherein the communication device  
communicates via a cellular, Bluetooth, satellite, radio, infrared, WiFi, Universal Serial Bus,  
parallel, or serial connection.

19. A method of detecting comprising:

generating a detection signal with a detector;

transmitting the detection signal to a portable computer communicatively

connected to the detector;

5 comparing the detection signal to a threshold level; and

producing an alarm signal with the portable computer if the detection signal

exceeds the threshold level.

20. The method of Claim 19 wherein generating the detection signal

10 comprises converting an unprocessed signal from a detection element into a processed signal

with a digital signal processor, and outputting the processed signal as the detection signal.

21. The method of Claim 19 further comprising:

transmitting first information via a communication device communicatively

15 connected to the portable computer.

22. The method of Claim 21 further comprising:

20 receiving second information via the communication device communicatively

connected to the portable computer.

23. The method of Claim 22 wherein the first information includes the alarm signal and the second information includes a command.

24. The method of Claim 21 wherein the communication device  
5 communicates via a cellular, Bluetooth, satellite, radio, infrared, WiFi, Universal Serial Bus, parallel, or serial connection.

25. The method of Claim 22 further comprising:  
generating a second detection signal from a second detector;  
10 transmitting the second detection signal to the portable computer  
communicatively connected to the second detector; and  
processing the second detection signal with the portable computer.

26. The method of Claim 19 further comprising:  
15 recording a location of the detector with a location device communicatively  
connected to the portable computer.

27. The method of Claim 26 wherein the position location device is a Global Positioning System (“GPS”) device.

20 28. The method of Claim 26 further comprising transmitting the alarm signal and the location of the detector via a communication device communicatively connected to the portable computer.

29. The method of Claim 19 wherein the detector is selected from the group consisting of a radiation detector, a biometric sensor, a radio frequency sensor, a chemical detector, and a biological detector.

5 30. The detection apparatus of Claim 29 further comprising a second detector communicatively connected to the portable computer.

31. The method of Claim 19 wherein the detector is selected from the group consisting of a scintillator with photodiode detector, a photodiode detector, a memory-cell based  
10 radiation detector, a residual gas analyzer ("RGA"), a chemical tape sensor, an infrared ("IR") spectral absorption instrument, and a solid state chemical sensor.

32. The detection apparatus of Claim 31 wherein the memory-cell based radiation detector is an SRAM radiation detector.

15 33. The detection apparatus of Claim 19 wherein the threshold level is adjustable.

20 34. A method of detecting comprising:  
generating a detection signal with a detector; transmitting the detection signal to a portable computer communicatively connected to the detector; analyzing the detection signal; and producing a specified response.